

be the hole 630 in covering layer 22 and the second section of the aperture may be the hole 632 in the backing layer 20. The aperture 612 matches the shape of two-level plug 600. The plug may be in the form of adjacent rectangular slabs having different cross-sectional areas.

Specifically, the cross-sectional area of the lower plug portion 604 may be larger than the cross-sectional area of the upper plug portion 602. The upper plug portion 602 may have a length L_1 of about 2.0 inches and a height H_1 of about 0.5 inches. The lower plug portion 604 may have a length L_2 of about 2.2 inches and a height H_2 of about 0.7 inches. Thus, the lower plug portion 604 extends beyond the upper plug portion 602 to form a rim 616 having a width W_1 of about 0.1 inches. The plug may be oriented so that its longitudinal axis lies along a radius of the polishing pad.

Although FIGS. 3D-F show the upper plug portion 602 as having a smaller cross-sectional area than the lower plug portion 604, this is not necessary. Instead, the upper plug portion 602 may be larger than the lower plug portion 604. The upper plug portion 602 has a thickness T_1 equal to the thickness of covering layer 22, i.e., about fifty mils. Thus, the thickness T_1 is equal to the depth D_1 of the first section of the aperture. The lower plug portion 604 is thinner than the backing layer 20 by about ten mils. The lower plug portion 604 may have a thickness T_2 of about forty mils. Thus, the thickness T_2 is less than the depth D_2 of the second section of the aperture.

In the claims:

Cancel claims 1-16.

Add claims 17-36.

17. A polishing pad for a chemical mechanical polishing apparatus, comprising:
an article having a polishing surface and a surface opposite the polishing surface,
a substantially transparent section formed in the polishing surface; and
an aperture formed in the surface opposite the polishing surface and aligned with the transparent section.

18. The polishing pad of claim 17, wherein the article includes a first layer with the polishing surface and a second layer adjacent to the first layer.

A